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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,888	08/20/2003	David Wayne Bonn	248588001US1	6359

25096 7590 10/18/2005

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EXAMINER

LESNIEWSKI, VICTOR D

ART UNIT PAPER NUMBER

2152

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/644,888	BONN, DAVID WAYNE	
	Examiner	Art Unit	
	Victor Lesniewski	2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-12 and 21-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-12 and 23-27 is/are allowed.
- 6) ☒ Claim(s) 21, 22 and 28-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The amendment filed 7/14/2005 has been placed of record in the file.
2. Claims 28-37 have been added.
3. Claims 5-12 and 21-37 are now pending.
4. The applicant's arguments with respect to claims 21 and 22 have been fully considered but they are not persuasive. A detailed discussion is set forth below.

Terminal Disclaimer

5. The terminal disclaimer filed on 7/18/2005 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent Number 6,618,755 has been reviewed and is accepted. The terminal disclaimer has been recorded.
6. The assignment document filed on 7/18/2005 is acceptable as the documentary evidence required by 37 CFR 3.73. If the assignment document is not already recorded with the United States Patent and Trademark Office, it is suggested that the assignment document be submitted for recording among the Office assignment records. See 37 CFR 3.11 and MPEP § 302.

Claim Rejections - 35 USC § 101

7. Claims 21 and 22 remain rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as presented in the previous action dated 6/29/2005.
8. See the Response to Arguments section below.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 28-31 and 33-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Tzeng (U.S. Patent Number 6,061,712).

11. Some claims will be discussed together. Those claims which are essentially the same except that they set forth the claimed invention as a computer-readable medium are rejected under the same rationale applied to the described claim.

12. Tzeng has disclosed:

- <Claims 28 and 33>

A method in a computing system for identifying subnet address ranges for subnets being used in the network, comprising: accessing a binary tree data structure, each node of the tree representing a range of one or more valid addresses in the network, each ancestor node representing all of the addresses represented among its descendants (column 3, lines 51-63 and column 4, lines 30-37); performing an incomplete preorder traversal of the nodes of a binary tree data structure representing valid addresses in the network, at each node visited in the traversal testing the address range represented by the node to determine whether the address range is a subnet address range for a subnet being used in the network (column 4, lines 38-54); and for each node whose represented address range

Art Unit: 2152

the testing indicates is a subnet address range for a subnet being used in the network, identifying the address range represented by the node as a subnet address range (column 4, lines 9-19).

- <Claims 29 and 34>

The method of claim 28 wherein the traversal does not visit any node that is a descendent of a node whose represented address range testing indicates that it is a subnet address range for a subnet being used in the network (column 5, lines 30-39).

- <Claims 30 and 35>

The method of claim 28 wherein the traversal does not visit any leaf nodes or parents of leaf nodes (column 6, lines 21-26).

- <Claims 31 and 36>

The method of claim 28, further comprising receiving addresses of a plurality of hosts operating in the network, wherein the traversal visits only nodes both of whose children have at least one leaf node descendent representing an host address among received host addresses (column 6, lines 42-52).

Since all the limitations of the invention as set forth in claims 28-31 and 33-36 were disclosed by Tzeng, claims 28-31 and 33-36 are rejected.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 2152

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 32 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tzeng in view of LaFollette et al. (U.S. Patent Number 6,212,171), hereinafter referred to as LaFollette.

15. Tzeng disclosed a method for IP routing table look-up that uses a hashed radix tree. In an analogous art, LaFollette disclosed a method for determining a gap count that utilizes delay times for a packet between a first leaf node and a second leaf node.

16. Concerning claims 32 and 37, Tzeng did not explicitly state determining whether at least a threshold fraction of reply packets each sent between addresses represented by leaf nodes that are descendents of different children of the tested node are sent directly between such addresses. However, LaFollette discloses this feature as his system sets forth a system that actively calculates certain properties of packets transferred between leaf nodes. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system of Tzeng by adding the ability to make calculations on reply packets sent between addresses represented by leaf nodes as provided by LaFollette. Here the combination satisfies the need for the use of ping and reply packets to test network components as was well known in the art at the time of the applicant's invention.

17. Thereby, the combination of Tzeng and LaFollette discloses:

- <Claims 32 and 37>

The method of claim 28, further comprising receiving addresses of a plurality of hosts operating in the network wherein the testing comprises, wherein the testing comprises determining whether a least a threshold fraction of reply packets each sent between addresses represented by leaf nodes that are descendents of different children of the

tested node are sent directly between such addresses (Tzeng, column 5, lines 6-17 and LaFollette, column 4, lines 58-63).

Since the combination of Tzeng and LaFollette discloses all of the above limitations, claims 32 and 37 are rejected.

Response to Arguments

18. In the remarks, the applicant has argued:

- <Argument 1>

Claims 21 and 22 recite statutory subject matter.

19. In response to argument 1, it is maintained that claims 21 and 22 are directed to non-statutory subject matter. Although the claims present “data elements, including a root node, intermediate nodes, and leaf nodes, as well as logical relationships between these three types of nodes” as described by the applicant in the remarks, a logical relationship between elements alone does not meet the requirements for statutory subject matter. These components must “impart functionality” when employed in the computer system. In the case of claims 21 and 22 there is no apparent functionality and thus the claims are seen as nonfunctional descriptive material.

Allowable Subject Matter

20. Claims 5-12 and 23-27 recite allowable subject matter as discussed in the previous action dated 6/29/2005.

Conclusion

21. The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure.

- Nelson et al. (U.S. Patent Number 5,835,720) disclosed a method for discovering devices on the network that uses an IP address table to identify subnets.
- Bournas et al. (U.S. Patent Number 6,061,679) disclosed a method for creating and searching a data structure ordered by ranges of key masks.

22. The applicant's amendment necessitated the new grounds of rejection presented in this office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). The applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor Lesniewski whose telephone number is 571-272-3987. The examiner can normally be reached on Monday through Thursday.

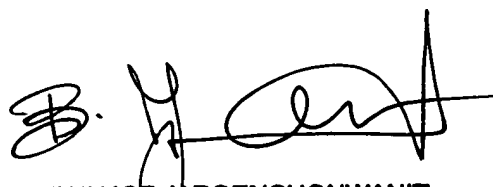
Art Unit: 2152

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571-272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Victor Lesniewski
Patent Examiner
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BUNJOB JAROENCHONWANIT
PRIMARY EXAMINER